Office Action Summary	Application No.	Applicant(s)	
	10/697,819	SKOV ET AL.	
	Examiner	Art Unit	
	ALEXANDER JAMAL	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Appeal

1. Based upon the submitted appeal, the examiner vacates the previous final rejection and submits a new set of non-final rejections based on newly discovered prior art.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. The following claims are rejected under 35 U.S.C. 102(e) as being anticipated by Hershbarger (US 7158573 B2).

As per **claims 1,8,17,** Hershbarger discloses a system and method for conveying duplex data across an isolation transformer. The data is modulated onto a signal that can cross the galvanic barrier (an AC signal) traveling outbound (to the phone line) (Col 4 lines 55-65). The first (primary) side of the transformer is driven with said modulated signal (fig. 6). The secondary side of the transformer receives the signal (fig.10) where the outbound data is extracted via a recovered clock signal that uses comparator 1410 in Fig. 14. The system modulates inbound (from the phone line to the host) data by modulating the load via the switch driven by the RXD signal (fig. 10). The host side (inbound data extractor) receives and senses the load modulations to recover the inbound (RXD) data (receive detector 618 in Fig. 6). The system is duplex, as such the secondary side of the transformer can be modulated when the AC signal (primary side) is not being modulated.

As per **claim 3,10,18,** the system transfers and extracts a clock signal across the transformer from the received signal (Hershbarger fig. 13, Col 14 lines 15-23). The clock is used to sample the incoming signal (ADC 908).

As per **claim 4,** figures 13 and 14 disclose a phase lock loop that senses the incoming signal (transitions), generates an independent clock signal (clk) and uses the signal to synchronize with the data transitions (Col 14 lines 15-20).

As per **claim 5,** it is rejected as per the claim 4 rejection. Additionally, the encoder/decoder block 1006 uses the extracted clock signal to generated data used to make signal RXD (fig. 10) which modulated the load at the transformer.

As per **claim 6,** the extracted clock is an analog signal used by the line side to create signal RXD which modulates the load on the transformer (fig.10).

As per **claim 7,** the signal RXD in fig. 10 is a digital signal coincident with an extracted clock used to modulate a load (fig. 10).

As per **claims 11,19,** the PLL in fig. 14 is a controllable oscillator used to generate an extracted clock signal based on transitions of the received signal. The PLL comprises comparator 1410 which compares the data with the extracted clock signal.

As per **claim 12,** it is rejected as per the claim 7 (modulate an impedance element) and claim 5 (synchronizer with extracted clock).

As per **claim 13,** fig. 9 discloses DAC 910, line circuit load (resistor on path ACS), impedance element (capacitor on path vps), and analog gate (at output of block 914).

As per **claim 14,** it is rejected as per the claim 13 rejection. The device comprises ADC 908 (fig. 9) and impedance element and switch shown at output of rectifier 1002 (fig. 10).

As per **claim 20,** it is rejected as per the claim 12-14 rejections.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The following claims rejected under 35 U.S.C. 103(a) as being unpatentable over Hershbarger (US 7158573 B2), and further in view of Kosaka (US 5369378 A).

As per **claim 15,** Hershbarger discloses a system where clocked (incident with a clock), serial bitstream data is modulated and sent across a transformer, and also an inbound data recovery unit that senses load modulations (as per the claim 1 rejection above) but does not disclose the specifics of the modulation, such that a signal generator feed a signal modulator with an xor and xnor gate

Kosaka teaches the specifics of a modulating a signal in a communications system (col 3 lines 35-45) including phase modulating a high frequency carrier signal (AC signal) (abstract). The modulator comprises XOR and XNOR gates (Fig. 8) used in modulator (fig. 6). Kosaka teaches that this is a (Col 4 lines 1-5) low cost digital modulator. It would have been obvious to one skilled in the art to implement the phase modulator for the disclosed modulation function in Hershbarger as it is a low cost.

As per **claim 16,** Hershbarger discloses a transformer driver (voltage driver) (abstract).

5. The following claims rejected under 35 U.S.C. 103(a) as being unpatentable over Hershbarger (US 7158573 B2) as applied to claims 1,8, above, and further in view of Kosaka (US 5369378 A).

As per **claims 2,9,** Hershbarger discloses a system where clocked (incident with a clock), serial bitstream data is modulated and sent across a transformer, but does not disclose the specifics of the modulation, such that the data is used to phase modulate the AC signal.

Kosaka teaches the specifics of a modulating a signal in a communications system (col 3 lines 35-45) including phase modulating a high frequency carrier signal (AC signal) (abstract). Kosaka teaches that this is a (Col 4 lines 1-5) low cost digital modulator. It would have been obvious to one skilled in the art to implement the phase modulator for the disclosed modulation function in Hershbarger as it is a low cost.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498, and whose email address is alexander.jamal@uspto.gov

The examiner can usually be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone or email are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499.

The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

May 28, 2010